

FOR MYSORE STATE

Agriculture

(1954) Department

Lr Ms **SERIES.**

G.O. No.

2306

Dated

8-7-54

Passed
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(19)

[Despatch Abstract.]

Agri - I. C. A. R. Scheme for
investigation of possibilities of
pre-soaking seeds in nutrient salts
as a method of improving crop yields
Proposal for continuance forwarded

SPECIAL

68382^{13¹¹}
24/5

AGRICULTURAL DEPARTMENT.

From
Sri M.S.Sivaraman, I.C.S.;
Director of Agriculture,
Chepauk, Madras.5.

To
The Secretary to Government,
Agriculture Department,
Fort Saint George, Madras.

No.D.1.761/54 dated 18-5-1954

...

Sir,

Sub:- INDIAN COUNCIL OF AGRICULTURAL RESEARCH - Scheme
for investigation of the possibilities of presoaking
seeds in nutrient salt as a method of improving
crop yields - continuance of.

Ref:- G.O.Ms.No.569 Food and Agriculture dated 31-3-52

In their order cited, the Government sanctioned the scheme
for investigation of the possibilities of presoaking seeds in
nutrient salts as a method of improving crop yields for a period
of 3 years from 1-4-52. As such the scheme will expire by 31-3-55.

2. As it is necessary to continue the work under the scheme
beyond 31-3-55, I submit herewith in duplicate proposals for
extension of the scheme for a period of 3 years from 1-4-55.

3. I request that the proposals for the extension of the
scheme may please be approved and forwarded to Indian Council
of Agricultural Research for their sanction.

4. Since 200 copies of the extension proposals should reach
Indian Council of Agricultural Research by the end of June 54
I request early orders of Government.

Sd.K.C.Naik,
For Director of Agriculture.

(By order)

SRS.20.5.54.

Shangareet h
GAZETTED ASSISTANT. 21.5.54

PROFORMA FOR SUBMISSION OF PROPOSALS FOR THE EXTENSION OF EXISTING AGRICULTURAL SCHEMES TO INDIAN COUNCIL OF AGRICULTURAL RESEARCH.

1. Name of scheme with location: Scheme for investigation of possibilities of presoaking in nutrient salts as a method of improving crops yields (Madras) - Coimbatore.
2. Date of start 1st May 1952
3. Date of termination: 31-3-55 ✓
4. Expenditure anticipated till present termination: Rs.17,242 (to be shared by Indian Council of Agricultural Research and State on 50:50 basis)
5. Results achieved in brief: (Please see appendix for full details) Use of KH₂ PO₄ to cholam and maize has been beneficial in increasing the yield. Similar observations were made in some more crops like cumbu, etc. But in the field scale the same order of increases were not secured in all cases. *p7/indus*
6. Further work remaining to be investigated: (Please see appendix for details) Correction of nutrient deficiencies will be sought to be achieved by pre-soaking with particular reference to calcium and addition of trace elements along with phosphate as a presoaking agent. *Annex 6 - p7 below*
7. Duration required Three years.
8. Recurring expenditure

	1st year	2nd year	3rd year	total
1. Pay of officers with details		Nil		
2. Pay of staff with details				
1 Assistant @ 100-5-140-EB-10-220	1380	1440	1500	4320
1 Fieldman @ Rs.45-2-60-1-80	612	636	660	1908
	1992	2076	2160	6228
3. Dearness allowances				
1 Assistant @ 28, 29, 30 for the 4th, 5th and 6th year	336	348	360	1044
1 Fieldman @ Rs.22	264	264	264	792
	600	612	624	1836
4. Other allowances				
House rent allowance for				
1 Assistant @ Rs.12 p.m	144	144	144	432
1 Fieldman @ Rs.7 p.m	84	84	84	252
	228	228	228	684
5. Leave Salary @ 1/11	182	189	197	568
6. Provident fund contribution at 1/6	125	130	135	390
7. Travelling allowance	100	100	100	300

32
228
5.0

Contingencies (A) Cultivation expenses.

Water supply charges	Nil			
2. Seeds, manures and other consumable stores	Nil			
3. Pay of permanent and temporary labour (monthly and daily)	500	500	500	1500
4. Dearness allowance to above	432	432	432	1296
5. Layout and maintenance of fields	Nil			
6. Other expenditure if any	Nil			
	932	932	932	2796

(B) Office and laboratory expenses

1. Service postage and telegrams	Nil			
2. Stationery and Printing	Nil			
3. Books and Periodicals*	50	50	50	100
4. Purchase of minor articles for office use & miscellaneous charges such as payment of freight on parcels	100	100	100	300
5. Hot weather charges	Nil			
6. Apparatus	2500	1000	1000	4500
7. Chemicals	1500	1500	1500	4500
	4150	2650	2600	9400

* A special provision is made for books and periodicals because they would serve a very real need for keeping abreast of the current work and because a special head of account is provided for in the latest approved schedule by the Indian Council of Agricultural Research.

(C) Petty construction and repairs to buildings

1. Petty constructions of buildings	Nil	Because the experiment are to be carried out at the existing Agricultural College
2. Repairs to buildings.	Nil	and Research Institute and Central farms

(D) Purchase of repairs to and upkeep of deadstock and livestock.

1. Purchase of deadstock (tools and implements)	Nil
2. Purchase of livestock	Nil
3. Purchase of furniture	Nil
4. Repairs and upkeep of deadstock and furniture	Nil
5. Expenditure on running machinery	Nil

10. Receipts anticipated: Nil

11. Share of I.C.A.R. @ 50% of 8 --Rs.22202/2 .. Rs.11,101/-
Share of Madras Government Rs.11,101/-

-True copy-

2/2/5

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Scheme for the investigation of the possibilities of
Pre-soaking seeds in nutrient salt as a method of
improving crop yields.

Appendix to proposals for extension of the scheme.

...

5. Results achieved in brief:

Cholam, maize, cumbu, and paddy were the few crops taken up for study so far.

Cholam: Pot culture studies were conducted using KH_2PO_4 (Molar) to preak the seeds for various hours and it was found that 16 hours of soaking gave a very significant increase in yield over control. A parallel experiment on the field was inconclusive, due to heavy rains immediately after the sowing period.

Maize: With the same salt (KH_2PO_4 , Molar strength) field trials were conducted on Maize. Here too 16 hours soaking was found to be beneficial, giving an increase in yield over control.

Cumbu: A number of presoaking treatments using phosphates of potassium and ammonium and glycerophosphates, and urea etc. were tried. Tribasic phosphate of potassium was found to increase the yields significantly.

Paddy: Co.10 and GEB 24 were tried. An increase in yield of 7.3% was recorded in Co.10, but it did not reach statistical significance. In the case of GEB 24, an increase of 88.3% in earhead weight was noticed due to Knop's solution as a pre-soaking agent in pots, which was also statistically significant. But in the field, the increases were of a lower order viz. 3.8% in the case of tribasic potassium phosphate and 5.9% in the case of Ammonium phosphate, and the differences did not attain statistical ~~solutions~~ ^{significance}.

Solution Culture: Ragi: Studies on Ragi in solution culture indicated that phosphate deficiency could be corrected to some extent by presoaking the seed in phosphate solutions.

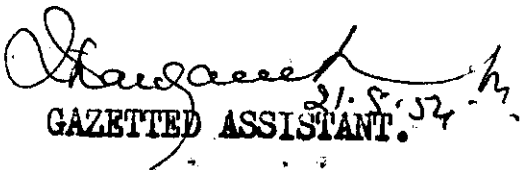
6. Further work remaining to be done:

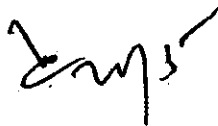
The treatments now found to be helpful for each particular crop will be studied in greater detail, to see how best to secure significant and consistent yield differences under field conditions.

Based on solution culture studies, correction of nutrient deficiencies will be sought to be achieved with particular reference to calcium as well as trace elements as pre-soaking salts along with phosphate as per programme. Chemical studies will have to be continued side by side to find out the variations and balance in nutrient intake at different stages of the life cycle of the plant. Field experiments are to be carried out in typically CA and P-deficient soils.

-True copy-

SRS.20.5.54.


GAZETTED ASSISTANT. 21.8.54



Agric (BII) Dept.
9

Issue
for
5/6.

Memo No. 68382 BII/54-2 dated 5-6-54.

Subj: Agric = I.C.A.R. - Scheme for the investigation of the possibilities of pre-soaking seeds in nutrient salts as a method of improving crop yields - Continuance of.

Ref: From the D.A. No. D1.761/54 dated 18-5-54.

pt 4

M. 5/6/54.

With reference to his proposal to continue the scheme mentioned above for a further period of three years, the D.A. is requested to report how far the results so far achieved will help to improve each crop towards better yield and whether the remaining work to be done for which continuance ^{is} has now been sought for three years would really require three years period. Unless

2 ~~4~~ 10
The results so far achieved on the scheme can
be made best use of and are really
helpful towards better cultivation of crops, the

~~D.A. is informed that~~ it is considered that there is no justification
justification to continue the scheme merely because

to avail of the grant from the I.C.A.R. The D.A.
is requested to examine the points raised above and to submit a report to Govt
2. An early reply is requested

4/6
5.6.54

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7/6.
To the D.A. Madras.
R.D. 7 days

SPECIAL



From
Sri M.S. Sivaraman, I.C.S.,
Director of Agriculture,
Chepauk, Madras.5.

To
The Secretary to Government,
Agriculture Department,
Fort Saint George, Madras.9

No.D.1.761/54 dated 17-6-1954.

Sir,

Sub:- Agriculture--Indian Council of Agricultural Research
Scheme for the investigation of the possibilities
of pre-cooking seeds in nutrient salts as a method
of improving crop yields--Continuance of.

Ref:- Government memo No.68382 B.II/54-2 Agriculture
Department dated 5-6-54.

I submit the following report on the points raised by
Government in their memo cited.

2.The technique of pre-soaking seeds in nutrient solutions
for the purpose of improving growth and yields is a new technique
and since there is very little literature on this subject in
regard to Indian crops, the study has to be carried practically
as a first investigation before the method can be recommended for
general adoption by the farming public. For each crop plant, as
in rice for example, the most suitable chemical or combination
of chemicals is to be determined first by trial and experiment.
Then the optimum concentrations of these chemicals are to be
ascertained, as well as the optimum period for which the seeds
have to be kept on the pre-soaking solution. A further point to
be decided is the relative ratio of the seed taken to the volume
of solution employed because, if the solution is in excess, some
substances are liable to get leached out of the seed into the
solution leading to depression of growth.

3.The work done so far in this scheme has enabled us to
state that yield increases of the order given below are possible
to be obtained but since these were from green house experiments
it is essential to test the same treatments under field conditions
to see how far the increase in the fields is similar to the increase
in the green house.

Summary of tests made so far on the effect of pre-soaking
treatments on different crop plants.

Crop plant	Treatments found to be the best for the crop plant			Effect on yield as percentage (on control)		
	Chemical	Concentra- tion	Period of soaking	Grain	Straw	
1	2	3	4	5		
Paddy	Pots field	K3PO4 "	20 "	8 hours "	138.8 112.8	101.4 -
Sorghum	Pots field	KH2PO4 "	Molar Molar	16 hours (ear heads) →	107.3 232.6	- 163.8
Ragi	Pots	K3PO4	20 %	8 hours (ear heads) →	216.8	148.1
	"	"	"	"	110.4	129.1
	"	"	"	"	120.1	137.6

contd..

	1	2	3	4	5	6
Gumbu	Pots	K3PO4	Molar	8 hours	384.6	201.9
Maize	Field	KH2PO4	"	16 hours	111.9	(Obs)
Cotton	Pots	KH2PO4	Molar	8 hours	194.1	(Kapas wt)
	Pots	Na2PO4	1/2 Molar	8 hours	114.3	(kapas wt)
	Field	Am.PO4	Molar			
		Boric acid	/0.1%		143.1	do
	Field	Am.PO4				
		Copper sul-				
		phate			135.8	do
Groundnut	Pots	CaHPO4	2%		128.8	(Pod wt)
		KH2PO4	2%		183.5	(Pod wt)

4. A period of three years is the minimum period required to obtain reliable information regarding the best presoaking treatments for each of the main crop plants mentioned above and on which green house tests have been made already. It is therefore requested that the extension of the present scheme may be recommended for three years more, after the expiry of the present sanction.

Sd.K.C.Naik,
For Director of Agriculture.

(By order)

[Signature] SRS/17-6.

[Signature]
Gazetted Assistant. 17.6.82

Letter No. 2306 dated 8/7/54

To

The Secretary, J.C.A.R.,

Tamragar House Kullmants,

Mansingh Road, N. Delhi (U.S.)

Sir,

Subj: Agri - J.C.A.R. - Scheme for investigation of possibilities of pre-soaking seeds in nutrient salts as a method of improving crop yields - Proposals for continuance - Forwarded.

Ref: G.O. No. 569 Food and Agri dt. 31-3-52

I am directed to say that the scheme for the investigation of the possibilities of pre-soaking seeds in nutrient salts as a method of improving crop yields ~~was~~ sanctioned by His Govt. in G.O. No. 569 Food Agri dated 31-3-52 with the financial assistance of the J.C.A.R. for a period of three years ^{will} ~~expiring~~ on 31-3-55. The D.R. Madras has reported that the treatments now found to be helpful for each crop has to be studied in greater detail ~~during the continuance~~ to see how best to secure significant and consistent yield differences under field conditions.

Issue
8/8/54
Delivered
10.7.54

He has therefore submitted proposals for continuing the scheme for a further period of three years from 1-4-55 at an estimated cost of Rs. 23,020/-. A copy of the scheme submitted by the D.A. is enclosed.

2. This Govt. considers that it would be sufficient if the scheme is continued for one more year only from 1-4-55. The cost on the scheme for one year would be Rs. 8000 roughly and the share of the J.C.P.R. work out to Rs. 4155/- on a 50:50 basis.

3. I am therefore to request that approval of the Council to continue the scheme for a further period of one year from 1-4-55 and sanction for a grant of Rs. 4155/- (Rupees Four Thousand One Hundred and Fifty Five only) towards its share of expenditure may kindly be obtained and communicated to this Govt. at an early date.

4. The D.A. is being instructed to send directly to the Council the required number of copies of the scheme.

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Agri (BII) Dept

Encl. No. 68382 BII/54-H dated 8.7.54.

have
of 8/8/54
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Copy communicated to the D.A.
He is requested to send immediately the
required number of copies of the scheme
for extension for a period of one year only
from 1-4-55 direct to the Council under
intimation to his Govt.

delivered
10.9.54

To the D.A., Madras.

1 B.F. 13.C.

Extension
C.A. 13. 20-1-55.
S.No. 582

for
4/7/54
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5.7.54

vs
5.7.54

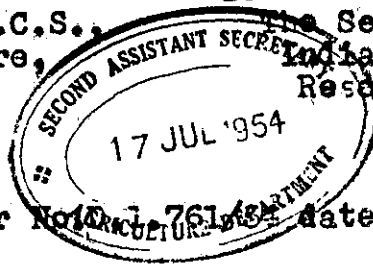
Agricultural Department

From

Sri M.S. Sivaraman, I.C.S.,
Director of Agriculture,
Chempauk. Madras.5.

To

The Secretary,
Indian Council of Agricultural
Research, Jamnagar House
Hutments, Mansingh Road,
New Delhi.



No. Letter No. 761/54 dated 13-7-1954.

Sir,

Sub: Indian Council of Agricultural Research -
Scheme for investigation of possibilities of
presoaking seeds in nutrient salts as a method
of improving crop yields - continuance.

Ref: Madras Government's letter No. Ms.2306 dated
8-7-54 addressed to you.

-2-

I enclose two hundred copies of the proposals for the
continuance of the Scheme for investigation of possibilities
of pre-soaking seeds in nutrient salts as a method of
improving crop yields for one year from 1-4-1955, as
ordered by Government in their letter cited.

Yours faithfully,

Sd. K.C. Naik,
For Director of Agriculture.

--by order--

73

Gazetted Assistant.

Copy submitted to the Secretary to Government, Agriculture
Department, Fort St. George with a copy of the proposals
with reference to Government Endorsement No. 68382-B.II/54-4
(Agriculture Department) dated 8-7-1954.

VR/-13-7-1954.

13/7

May be lodged and added to papers at (7)
21.7.54

PROFORMA FOR SUBMISSION OF PROPOSALS FOR THE EXTENSION OF
EXISTING AGRICULTURAL SCHEMES TO INDIAN COUNCIL OF
AGRICULTURAL RESEARCH.

1. Name of scheme with location:	Scheme for investigation of possibilities of presoaking seeds in nutrient salts as a method of improving crops yields (Madras) - Coimbatore.
2. Date of start	1st May 1952
3. Date of termination:	31-3-1955
4. Expenditure anticipated till present termination:	Rs.17,242 (to be shared by Indian Council of Agricultural Research and State on 50:50 basis)
5. Results achieved in brief: (Please see appendix for full details)	Use of KH ₂ PO ₄ to cholam and maize has been beneficial in increasing the yield. Similar observations were made in some more crops like cumbu, etc. But in the field scale the same order of increases were not secured in all cases.
6. Further work remaining to be investigated: (Please see appendix for details).	Correction of nutrient difficiencies will be sought to be achieved by pre-soaking with particular reference to calcium and addition of trace elements along with phosphate as a presoaking agent.
7. Duration required	One year
8. Recurring expenditure	<u>One year</u>
1. Pay of Officers with details	
2. Pay of staff with details	
1. Assistant @ ~~Rs.45-2-60-1-80~~ 100-5-140-EB-10-220	1380
1 Fieldman @ Rs.45-2-60-1-80	612

	1992

3. Dearness Allowances	
1 Asristant @ 28, 29, 30 for the 4th 5th and 6th year	336
1 Fieddman @ Rs.22	264

	600

P.t.o.

600
272
102
92

4. Other allowances	
House Rent Allowance for	
1 Assistant @ Rs.12 P.M.	144
1 Fieldman @ Rs.7 p.m.	84

	228

5. Leave Salary @ 1/11	182
6. Provident Fund Contribution at	
1/16	125
7. Travelling allowance	100
9. <u>Contingencies (A) Cultivation expenses.</u>	
1. Water supply charges	Nil
2. Seeds, manures and other consuma- ble stores	Nil
3. Pay of permanent and temporary labour (monthly and daily)	500
4. Dearness allowance to above	432
5. Layout and maintenance of fields	Nil
6. Other expenditure if any	Nil

	932

(B) <u>Office and laboratory expenses.</u>	
1. Service postage and telegrams	Nil
2. Stationery and Printing	Nil
3. Books and Periodicals*	50
4. Purchase of minor articles for office use & miscellaneous charges such as payment of freight on parcels	100 /
5. Hot weather charges	Nil
6. Apparatus	2500
7. Chemicals	1500 /

	4150

* A special provision is made for books and periodicals because they would serve a very real need for keeping abreast

Contd/-

of the current work and because a special head of account is provided for in the latest approved schedule by the Indian Council of Agricultural Research.

(C) Petty Construction and repairs to buildings:

- | | | |
|-------------------------------------|-----|--|
| 1. Petty constructions of buildings | Nil | Because the experiment are to be carried out at the existing Agricultural College and Research Institute and Central farm. |
| 2. Repairs to buildings | Nil | |

(D) Purchase of, repairs and upkeep of deadstock and livestock

- | | |
|--|--------------|
| 1. Purchase of deadstock (tools and implements) | Nil |
| 2. Purchase of Livestock | Nil |
| 3. Purchase of furniture | Nil |
| 4. Repairs and upkeep of deadstock and furniture | Nil |
| 5. Expenditure on running machinery | Nil |
| 10. Receipts anticipated: | Nil |
| 11. Share of I.C.A.R. @ 50% of Rs. 8309 | - Rs. 4155/- |
| Share of Madras Government | - Rs. 4154 |

--True copy--

Sd. K.C. Naik
For Director of Agriculture.

Contd/-

Scheme for the investigation of the possibilities of
Pre-soaking seeds in nutrient salt as a method of
improving crop yields. --4--

5. Results achieved in brief:

Cholan, maize, cumbu and paddy were the few crops taken up for study so far.

Cholan: Pot culture studies were conducted using KH_2PO_4 (Molar) to presoak the seeds for various hours and it was found that 16 hours of soaking gave a very significant increase in yield over control. A parallel experiment on the field was inconclusive, due to heavy rains immediately after the sowing period.

Maize: With the same salt (KH_2PO_4 , Molar strength) field trials were conducted on Maize. Here too 16 hours soaking was found to be beneficial, giving an increase in yield over control.

Cumbu: A number of presoaking treatments using phosphates of potassium and ammonium and glycerophosphates, and ^{urea} etc. were tried. Tribasic phosphate of potassium was found to increase the yields significantly.

Paddy: Co.10 and GEB 24 were tried. An increase in yield of 7.3% was recorded in Co.10, but it did not reach statistical significance. In the case of GEB 24, an increase of 88.3% in earhead weight was noticed due to Knop's solution as a pre-soaking agent in pots, which was also statistically significant. But in the field, the increases were of a lower order viz. 3.8% in the case of tribasic potassium phosphate and 5.9% in the case of Ammonium phosphate and the differences did not attain statistical significance.

Solution Culture: Ragi: Studies on Ragi in solution culture indicated that phosphate deficiency could be corrected to some extent by presoaking the seed in phosphate solutions.

Contd/-

6. Further work remaining to be done:

The treatments now found to be helpful for each particular crop will be studied in greater detail, to see how best to secure significant and consistent yield differences under field conditions.

Based on solution culture studies, correction of nutrient deficiencies will be sought to be achieved with particular reference to calcium as well as trace elements as pre-soaking salts along with phosphate as per programme. Chemical studies will have to be continued side by side to find out the variations and balance in nutrient intake at different stages of the life cycle of the plant. Field experiments are to be carried out in typically CA and P - deficient soils.

--True copy--

Gazetted Assistant.

VR/-13-74954.

VRD
13/7

13.7.54.

(C. NO. 68382 BII/54)

Agriculture - I.C.A.R. - Scheme for the investigation of the possibilities of pre-soaking seeds in nutrient salts as a method of improving crop yields
Continuance of.

G.O. No. 569 Food and Agri dated 18-5-54.

From the D.A. Lr. No. D.I. 761/54 dated 18-5-54.

The letter from the D.A. at p. 1 of. may be perused.

2 Previous history. In August 1950, the D.A. submitted a scheme for the investigation of the possibilities of pre-soaking seeds in nutrient salt solutions as a method of improving crop yields. The object of the scheme was to undertake the investigation at Coimbatore and if the results ^{were} sufficiently promising to extend it to some research stations in the districts in collaboration with the (concerned) crop specialists. The scheme was forwarded to the I.C.A.R. and it was requested to meet the entire expenditure of Rs. 22,200 on the scheme for a period of three years. But the I.C.A.R. sanctioned only a half grant of Rs. 11,500/- only and the D.A. recommended that the grant may be accepted. The recommendation of the D.A. was accepted and the scheme was sanctioned in G.O. No. 569 Food & Agri dated 18-5-54 for a period of three years from 1-4-52 at a cost not exceeding Rs. 23,020 to be shared by the State Govt. and the I.C.A.R. on a 50:50 basis.

3- Details of extended scheme. The scheme will expire on 31-3-55 the D.A. has now submitted proposals for extending the scheme for a further period of three

years from 1-4-55. The results so far achieved will be found in para 5 at p 7 of . The treatments now found to be helpful for each crop is proposed to be studied in greater detail during the extended period to see how best to secure significant and consistent yield differences under field conditions. The D.A. proposes to continue the existing staff of one Assistant on Rs. 100-220 p.m. and one Fieldman on Rs. 15-80 p.m. to work under the administrative control of the ~~Agri. Principal~~, Agr. College, CBE Chemist and under the immediate guidance of the Plant Physiologist, Coimbatore.

4. Financial implications. The cost on account of the scheme is as follows:

	1955-56	1956-57	1957-58.
	Rs.	Rs.	Rs.
1) Pay of Staff	1992	2076	2160
2) Allowances to Staff	928	940	952
3) Leave Salary.	182	189	197
4) Provident Fund Contribution	125	130	135
5) Contingencies - Lab. charges	932	932	932
6) " Lab. expenses	4150	2650	2600
	8309	6917	6976

Grand total for 3 years : Rs. 22202 /-

Share of the I.C.A.R. and State Govt: Rs. 11,101 each.

As all schemes to be forwarded to the I.C.A.R. should be done before 30-6-54, it is for consideration whether the proposal of the D.A. to continue the scheme for a further period of three years from 1-4-55 at an estimated cost of Rs. 22,202/- will be accepted and if so, whether the I.C.A.R. may be addressed to ~~submit~~ ^{meet}

24.5.54

24.5.54

20/5/54

50% of the cost of the Scheme

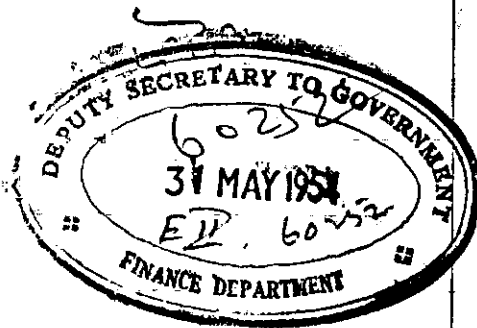
6. Finance may see before circulation

27/5/54

18.5.54.

20/5/54

Agri No. 68382 B II / 54-1
29.5.54.



29537

Am (H?)

Notes of Agriculture from p. 1 above may be perused.

para 5 up to above

Agri. propose to accept the recommendation of the S.A. for the continuance of the scheme for investigation of the possibility of presoaking seeds in nutrient salt as a method of improving crop yields for a further period of 3 years from 1.4.55. The current sanction for the above scheme will expire by 31.3.55. The total cost of the scheme for the three years is estimated at Rs 22.20/-, of which 50% will be met by the I.C.A.R. and the remaining 50% by the State Govt.

para 1 up to

on p 5 of

p 3 of A1

The scheme was started from 1st May, 1952. The results so far achieved in brief and the further work to be done have been detailed by the S.A. in paras 5 and 6 on p. 7 of.

The following remarks

are called for in Advance.

The point for consideration is how far the results so far achieved (as detailed in para 5 on p 7 c). will help to improve each of the crops towards better yield and whether the remaining work to be done, for which Finance has now been asked for 3 years (would really require three years period.

unless the results so far achieved on the scheme ^{can} ~~be~~ be made best use of and are really helpful towards better cultivation of the crops, it is submitted there is no justification to continue the scheme merely because the P.C.A.'s grant can be availed of.

Agri. may be requested to consider S.A. with ref. to A. also and submit the file to the dept., after the reply from S.A. is received.

1/6/54
1.6/54
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2/6/54
S.

Agri (B.II) Dept.

With reference to remarks of Finance above, a draft memo to the S.A. is submitted below for approval.

1/6/54
5.6.54

5/6/54

3/7/54
DS.

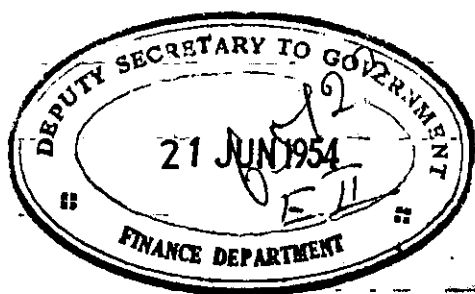
15.50. FA
1.6.54
FIRST ASSISTANT SECRETARY
3-JUN-1954
AGRICULTURE DEPARTMENT
Fm 0-0-60252 EII-1
2-6-54.
73692 BII
4/6.

[Issued as Memo no. 68382 BII/54-2 dated 5-6-54]
[From the D.A. Lr. no. D.I. 761/54 dated 17-6-54]

With reference to the memo at
pp 9-10 of., the reply from the D.A. at pp 11-13 of. may
be perused.

2. The D.A. has reported that the technique
of pre-soaking seeds in nutrient solutions is a new
one and since there is very little literature on this
subject in regard to Indian crops, the study has to
be carried practically as a first investigation
before the method can be recommended for
general adoption by the farming public. The D.A.
has furnished the results so far achieved on each
crop and has stated that the work done so far has
enabled the Dept. to find out that yield increases are
possible to be obtained but since these were from
green house experiments, it is essential to test
the same treatments under field conditions.
He has therefore stated that a period of
three years is the minimum period required
to obtain reliable information regarding the
best pre-soaking treatments for each main crop.

3. The file may now be sent
to Finance with reference to C on file above.



[Signature]
19.6.54

[Signature]
21/6/54

[Signature]
Y. Jm.

Ag. no. 68382 BII/54-3

21-6-54

Fin (E 11)

(Pre. Fin note on Ms. 3. 4 above)

The letter from the S.A. on
Ms 11-13 of and the further note of Agri.
on p. 5. above may be perused.

For the reasons stated

by S.A. in his further info. at p. 11 of
his report. May perhaps concede the need
for the continuance of the scheme. In para
4 of his letter at p. 13 of 4 is stated
that the a period of three years is the
minimum required to obtain reliable
information regarding the best presowing
treatments for each of the main crop
plants. As the present proposal is only
to continue the existing scheme and as
the scheme had already been in existence
since May 52. it is for orders whether
this depa. may suggest that it is
sufficient, if the scheme is continued.
The 28.2.56. with the financial
assistance from the I.C.A.R. M(P and R)
may also be.

p 13 of

A. S. S. above

X
22/6/54

22/6/54 AS-N.

~~AS-N.~~



Fin 10. 65/23 E 11-1

22-6-54.

84633 B 11
23/6

22-6-54 M
22-6-54

Agri.

NOTE FOR CIRCULATION.

The file relates to the proposal of the D.A. to continue the scheme for the investigation of the possibilities of pre-soaking seeds in nutrient salts as a method of improving crop yields for a further period of three years.

2. In August 1950, the D.A. submitted a scheme for the investigation of the possibilities of pre-soaking seeds in nutrient salt solutions as a method of improving crop yields. The object of the scheme was to undertake the investigation at Coimbatore and if the results were sufficiently promising to extend it to some research stations in the districts in collaboration with the crop specialists concerned. The scheme was forwarded to the I.C.A.R. and it was requested to meet the entire expenditure of Rs.22,200 on the scheme for a period of three years. But the I.C.A.R. sanctioned only a half grant of Rs.11,510/- only and the D.A. recommended that the grant ^{might} ~~may~~ be accepted. The recommendation of the D.A. was accepted and the scheme was sanctioned in G.O.MS.569 Food and Agri. dated (18.5.54) for a period of three years from 1.4.52 at a cost not exceeding Rs.23,020 to be shared by the State Govt. and the I.C.A.R. on a 50:50 basis.

3. As the scheme ^{will} ~~with~~ expire on 31.3.55, the D.A. has now submitted proposals for extending the scheme for a further period of three years from 1.4.55. The treatments now found to be helpful for each crop is proposed to be studied in greater detail during the extended period to see how best to secure significant and consistent yield differences under field conditions. The total cost on the scheme for 3 years would be Rs.22,202/- and the share of the I.C.A.R. would be Rs.11,101 on a 50:50 basis.

vide A. 11/1/52 (12)

vide B. 11/1/52 (12)

vide M. 11/1/52 (12)

b. 11/1/52 (12)

p. 11/1/52 (12)

p. 23-24/52 (12) - 31.3.52

p. 11/1/52

X on 11/1/52

X on 11/1/52

4. The proposal of the D.A. was supported in this Dept. Finance Dept. have suggested that it would be sufficient if the scheme is continued upto 29.2.56 with the financial assistance from the I.C.A.R. With reference to the above suggestion of Finance it may be mentioned that the D.A. has furnished the results so far achieved on each crop and has stated that the work done so far has enabled the Dept. to find out that yield increases are possible to be obtained but since these were from green house experiments, it is essential to test the same treatments under field conditions. He has therefore stated that a period of three years is the minimum period required to obtain reliable information regarding the best pre-soaking treatments for each main crop. Further, if the scheme is to be discontinued at the end of one year, it would be letting go to waste the accumulated knowledge and experience so far gained on the subject. In the circumstances it is for orders

i) whether the proposal of the D.A. for continuing the scheme for the investigation of the possibilities of pre-soaking seeds in nutrient salts at an estimated cost of Rs.22,202 for a period of three years will be accepted; and if so,

ii) whether the I.C.A.R. will be addressed for a ^{grant} growth of Rs.11,101/- towards its share of expenditure; or

iii) whether the suggestion of Finance to continue the scheme for one year only will be accepted.

5. The case may be circulated to M(A)

25/6 and M(F+E) for approval:

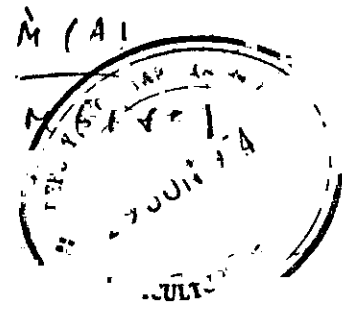
25.6.54.

N (iii) may be accepted

N. Murugesu

M(4) M. Bhaskararaman 25.6.54

M(F+E) S. Subramaniam 28.6.54



X. 6 alone

134.

C. m. f. 1-

do -

R. m. f. 1.

M

Orders in circulation at Rs above: A draft letter to the Council and a draft Ltr. to the D.A. are submitted below for approval. The cost of the Scheme for one year would be Rs. 8309 or Rs. 8310 roundly and the share of the State Govt. and the J.C.A.R. would be Rs. 4155/- each respectively.

 4/7. 1
5.7.54.

 5/7/54


26/7/54